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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/532,304	03/22/2000	Yoshihiko Hirota	325772015800	8667

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EXAMINER	
ROGERS, SCOTT A	
ART UNIT	PAPER NUMBER
2624	6

DATE MAILED: 05/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/532,304	HIROTA ET AL.	
	Examiner	Art Unit	
	Scott A Rogers	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1,5,6,8 and 9 is/are rejected.

7)☒ Claim(s) 2-4 and 7 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1, 8, and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Shiau et al (US 5880857).

Shiau et al disclose in the background art discussion, a known image processing unit and method in which input pixel data is successively quantized based on output values distributed at predetermined tone differences, an error of quantization of the pixel data is detected, the detected error of quantization of the pixel data with respect to an

error of quantization of peripheral pixel data is integrated, and the integration error is feedback and added to pixel data input next (see col. 1, lines 26-53)

Shiau et al disclose the improvement of generating random noise in accordance with a tone level of the input pixel data and superimposing the generated random noise on the pixel data before the pixel data is quantized (see col. 3, line 57 to col. 4, line 17, and col. 6, lines 7-19).

Shiau et al disclose in the case of successive input of pixel data that comprise a plurality of color data necessary for color reproduction, and said random noise is generated for each color (see col. 9, lines 29-34).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiau et al as applied to claim 1 above, and further in view of Tanioka et al (US 5153925).

Shiau et al do not disclose a simple quantizing unit that quantizes pixel data on which the random noise is not superimposed and a selector that selects either one of multilevel error diffusion processed pixel data and simple quantized pixel data in

accordance with an attribute of the pixel data such as a character edge, and outputs the selected data as tone reproduction data.

However, Tanioka et al teach a simple quantizing unit 201 that quantizes pixel data and a selector 202 that selects either one of multilevel error diffusion processed pixel data (from 200b) and simple quantized pixel data (from 201) in accordance with an attribute of the pixel data such as a character edge, and outputs the selected data as tone reproduction data (col. 3, lines 15-38).

It would have been obvious to one of ordinary skill in the art to have modified the image processing unit Shiau et al, in view of the suggestion in Tanioka et al, to have included a simple quantizing unit that quantizes pixel data on which the random noise is not superimposed and a selector that selects either one of multilevel error diffusion processed pixel data and simple quantized pixel data in accordance with an attribute of the pixel data such as a character edge, and outputs the selected data as tone reproduction data. The motivation for such modification in view of Tanioka et al, would have been to obtain a high grade halftone or character image reproduction by selecting a fixed thresholding (simple quantizing) output in accordance with the presence of an edge in the input data (col. 2, lines 3-15).

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiau et al as applied to claim 1 above, and further in view of well known prior art (MPEP 2144.03).

Shiau et al do not disclose implementation of their method using a computer program to controlling an image processor.

Computer programs for controlling image processors are notoriously old and well known in the prior art.

It would have been obvious to one of ordinary skill in the art to have modified the image processing unit Shiau et al, in view of the well known prior art to have implemented of their method using a computer program to control an image processor in order to have obtained the well known advantages of a programmable processor (e.g., wider and lower cost application, improved ability and reduced cost to update, modify, and maintain, etc.).

Allowable Subject Matter

Claims 2-4 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Drawings

New corrected drawings are required in this application because in Fig. 1 there should be an arrow form element 6 to element 7. Applicant is advised to employ the services of a competent patent draftsperson outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are

required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott A Rogers by telephone at 703-305-4726 and by e-mail address at scott.rogers@uspto.gov.

The official fax number for Technology Center 2600 where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to TC 2600 Customer Service at 703-306-0377.

SCOTT ROGERS
PRIMARY EXAMINER

04 May 2003